91-04287/

ANNUAL REPORT

for the fiscal year
ending March 31, 1989

Department of Lands and Forests

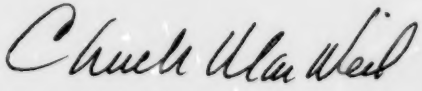
To His Honour

The Honourable Lloyd R. Crouse, P.C.
Lieutenant-Governor of Nova Scotia

May It Please Your Honour:

I have the honour to submit herewith the report of the Department of Lands and Forests for the fiscal year ended March 31, 1989.

Respectfully submitted,



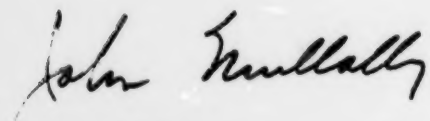
C.W. "Chuck" MacNeil, M.D.
MINISTER OF LANDS AND FORESTS

The Honourable C.W. "Chuck" MacNeil, M.D.
Minister of Lands and Forests
Halifax, Nova Scotia

Sir:

I have the honour of presenting the Report of the Department of Lands and Forests for the fiscal year ended March 31, 1989.

Respectfully submitted,



John Mullally
DEPUTY MINISTER

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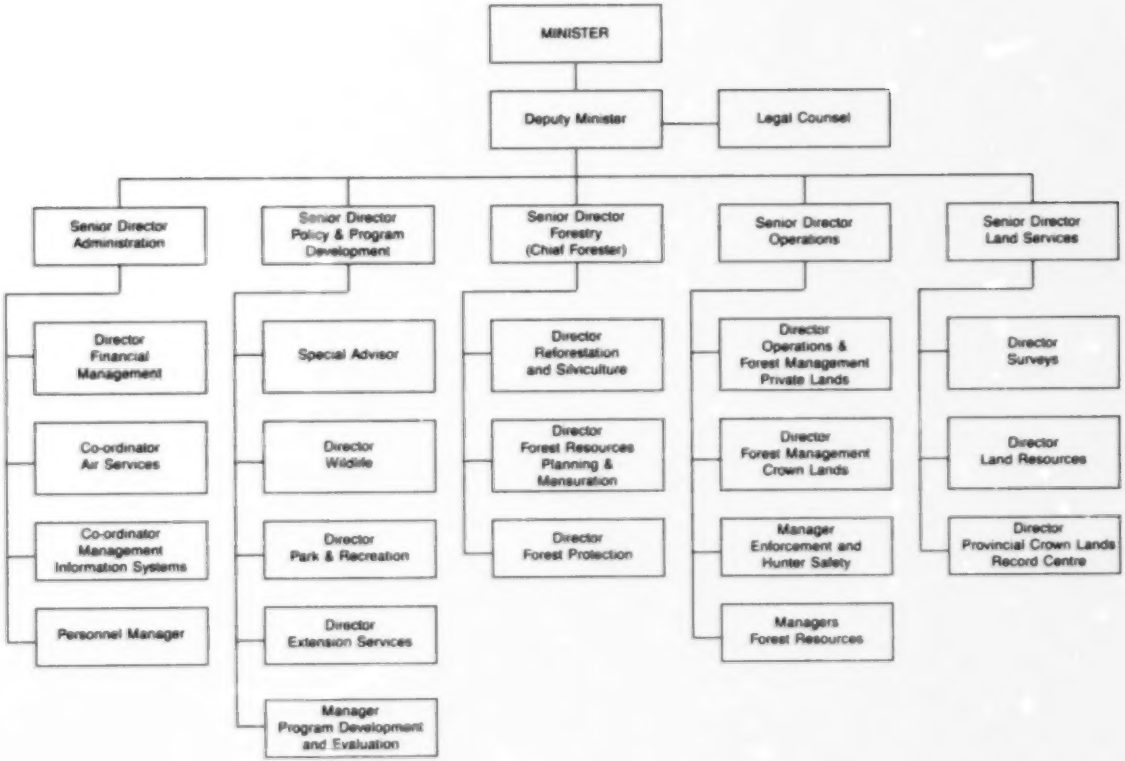
Department Organization



DEPARTMENTAL FUNCTION AND ORGANIZATION

DEPARTMENT OF LANDS AND FORESTS
P.O. Box 698
Halifax, Nova Scotia
B3J 2T9

MINISTER
Hon. C.W. "Chuck" MacNeil, M.D.
424-4037

DEPUTY MINISTER
John Mullally
424-4121

The Department of Lands and Forests was established by legislation enacted in 1926. The Department is charged with administering the Forest Act, the Crown Lands Act, the Wildlife Act, the Provincial Parks Act, and various other statutes, including the Forest Enhancement Act, the Beaches Preservation and Protection Act, the Land Titles Clarification Act, and the Scalers Act. From these it derives authority to manage Crown lands, to manage wildlife habitat, to provide a system of parks, and to manage and protect the forests, wildlife, and beaches. Inherent in the legislation and incumbent upon the Department are responsibilities pertaining to the productivity of the forests generally, the supply of forest products, the conservation of water, and the enhancement of recreational and scenic values.

Services are organized and delivered through five branches:

- Administration
- Policy and Program Development
- Forestry
- Operations
- Land Services

BOARDS AND COMMISSIONS

NOVA SCOTIA PRIMARY FOREST PRODUCTS MARKETING BOARD
Metropolitan Place
99 Wyse Road, Suite 470
Dartmouth, N.S.
B3A 4S5
(424-5456)

This board is responsible for administering the Primary Forest Products Marketing Act. The purpose is to regulate the marketing of primary forest products on behalf of producers and buyers in the province.

COMMISSIONER OF FOREST ENHANCEMENT
Box 1830
Truro, N.S.
B2N 5Z5
(893-7242)

The office of the Commissioner of Forest Enhancement was created under the Forest Enhancement Act based on recommendations found in the report of the Royal Commission on Forestry (1984).

The Commissioner facilitates the implementation of forest management programs and reports annually on the progress of such programs to the Governor in Council through the minister. Other duties include coordinating the activities of the Forest Advisory Council with those of government and performing such functions as are assigned by the minister or the Governor in Council.

FOREST POLICY AND LEGISLATION

Following an extensive public review of its provincial parks policy and associated legislation, the Province adopted a new Parks Policy in April, 1988. A new Parks Act and a Trails Act were passed and substantial changes were made to the Beaches Preservation and Protection Act. This legislation was proclaimed on January 1, 1989.

ACTS ADMINISTERED BY THE DEPARTMENT OF LANDS AND FORESTS

1. Beaches and Foreshores Act
2. Beaches Preservation and Protection Act
3. Blueberry Associations Act
4. Bowater Mersey Agreement Act
5. Crown Lands Act
6. Forest Enhancement Act
7. Forests Act
8. Halifax Power and Pulp Company Limited Agreement Act
9. Indian Lands Act
10. Kedgemakooge National Park Act
11. Land Holdings Disclosure Act
12. Land Titles Clarification Act
13. Nova Scotia Land Surveyors Act
14. Nova Scotia Pulp Limited Agreement Act
15. Parks Development Act
16. Provincial Parks Act
17. Primary Forest Products Marketing Board Act
18. Scalers Act
19. Scott Maritimes Pulp Limited Agreement Act
20. Wildlife Act
21. Trails Act

ADMINISTRATION BRANCH

The Administration Branch is responsible for financial management, personnel and payroll, air services, and automated information services, as well as for implementing administrative policies and procedures on behalf of the minister and deputy minister. It is composed of four divisions: Financial Management, Personnel and Payroll, Air Services, and Management Information Systems.

FINANCIAL MANAGEMENT

The Financial Management Division develops financial systems and provides financial information to all branches of the Department and control agencies of government. The division assists in the preparation of expenditure estimates, prepares the revenue budget, processes departmental accounts payable, administers the collection of revenue and is responsible for the distribution and sale of game and fishing licenses.

Expenditures and Revenues 1988-89

ORDINARY EXPENDITURES

Administration Branch

Office of Minister and Deputy	$ 251,322	
Administration Services	294,179	
Financial Management	898,791	
Game Licenses	379,358	
Personnel and Payroll	140,761	
Legal Services	97,878	
Grants and Assistance	183,750	
Air Services	2,002,813	
Forest Operators Assistance	932,790	
Office of Commissioner of Forest Enhancement	139,562	
Advisory Councils	69,893	$ 5,391,097

Policy and Program Development Branch

Branch Administration	$ 285,373	
Marketing and Strategic Studies	59,686	
Extension Services — Administration	255,164	
— Support	387,808	
— Liaison	195,943	
Urban Forestry	26,923	
Wildlife Management Planning	820,361	
Fish Rearing Station/Park	145,239	
Wildlife Parks	735,206	$ 2,911,703

Forestry Branch

Branch Administration	$ 896,724	
Forest Nurseries	2,627,542	
Tree Breeding	445,578	
Insect and Pathogens	96,557	
Resource Management Planning and Coordination	391,290	
Forest Inventory	1,051,852	
Timber Loan Board	25,993	
Scaling	51,164	
Fire Control Equipment	283,382	
Fire Control Support Serv.	180,196	
Fire Control — Fire Fighting	172,859	
Mechanical Equip. Motor Section	508,442	
Prov. Depot — Heavy Equip.	144,055	
Prov. Depot — Support Services	256,049	
Radio Communications	923,235	$ 8,054,915

Operations Branch

Branch Administration	$ 571,659	
Silviculture Agreements	275,221	
Administration — Field Services	2,890,241	
Forest Protection	2,332,964	
Enforcement and Hunter Safety	836,778	
Parks Maintenance and Operation	1,493,253	
Extension and Training	42,813	
Private Land Forest Management	1,381,662	
Wildlife Management	732,248	
Crown Land Forest Management	1,825,553	
Properties, Vehicles & Equipment	1,025,677	$ 13,410,069

Land Services Branch

Branch Administration	$ 100,134	
Land Acquisition	364,543	
Surveys	1,318,774	
Provincial Crown Lands Record Centre	502,580	$ 2,286,031
TOTAL ORDINARY EXPENDITURES		$ 32,053,818
Forest Resource Development Agreement[1]		$ 4,296,317
Recoveries		
Administration Misc.	$ 100	
Policy and Program Development		
Education and Information	$ 10,141	
Forestry		
Radio Communications	85,706	$ 95,947
CAPITAL EXPENDITURES		
Furniture and Equipment		
Office	$ 20,393	
Firefighting Equipment	304,089	
Forestry Equipment	575,831	$ 900,313
Other		
Parks and Recreation	$ 3,158,956	
Forest Research	497,085	
Operational Silviculture	405,412	
Crown Land Access Roads	1,247,343	
Land Acquisition	2,347,898	
Surveys	1,554,205	$ 9,210,899

[1]Funds budgeted in the Department of Development

Public Works and Special Projects		
Depot Buildings	$ 297,358	
TOTAL CAPITAL EXPENDITURES		$ 10,408,570
Forest Resource Development Agreement[1]		$ 8,467,908
REVENUE		
Admission Fees — Parks	$ 258,996	
Fines and Forfeitures	118,048	
Game and Fish Licenses	2,594,136	
Leases and Grants	48,997	
Nursery — Sale of Trees	1,812,735	
Selective Cutting	22,748	
Timber and Firewood Licenses	1,585,483	
Miscellaneous	122,704	
		$ 6,563,847

[1]Funds budgeted in the Department of Development

PERSONNEL AND PAYROLL

The Personnel and Payroll Division is responsible for personnel matters and payroll documentation.

The number of civil service positions as of March 31, 1989 was 666. During the year, between 150 and 1500 casual employees were on staff to assist in full-time, seasonal or student internship programs.

This year saw the retirement of L. Leroy Wright, Forester at Kentville; Norman A. Matheson, Chief Clerk, Wildlife at Kentville; Allyn H. McNeil, Supervisor, Forest Resources at Windsor; Richard C. Burrill, Maintenance Worker at Shelburne; Eldon R. Pace, Supervisor, Wildlife Park at Shubenacadie; Ernest F. Boehk, Surveyor at Dartmouth; and Gerald D. MacIntosh, Field Assistant, Surveys at St. Peter's.

The Department was saddened by the death in May 1988 of Donald P. MacLean, Foreman at the Strathlorne Forest Nursery, and in September 1988 by the death of Donald C. Wood. Sanctuary Warden at Parrsboro and in February 1989 of J. Roy Morris, Forestry Technician at Parrsboro.

AIR SERVICES

The Department maintains three fixed-wing aircraft and five helicopters to provide service to government departments and agencies. Primary functions include medical evaluations, ground search and rescue, forest fire detection and suppression, provincial emergency situations, and resource development and management.

During the year a total of 163.4 hours was flown on fire patrol and water bombing missions. The Air Service was called on by the Emergency Measures Organization to carry out 56 searches (totalling 181.7 hours) for missing persons. Twenty-four air ambulance missions (totalling 120 hours) were also performed.

MANAGEMENT INFORMATION SYSTEMS

The Long Range Systems Plan presented to Management Board was favorably received.

During the fiscal year the integration of the new Forest Management System software took place. Several staff members were selected and trained on FOCUS to prove the ease of use and type of background needed to use the product. Additional EDP training was provided by the Civil Service Commission and the department purchased a number of computer-based training videos.

POLICY AND PROGRAM DEVELOPMENT BRANCH

The Policy and Program Development Branch is responsible for developing, evaluating and recommending policy and program alternatives in forest management, wildlife management and parks and recreation. The branch is also responsible for information and education functions through its Extension Services Division. The task of conducting marketing studies and encouraging forest industry development also falls to this branch.

Policy and Program Development consists of four divisions: Wildlife, Parks and Recreation, Extension Services, and Program Development and Evaluation.

This branch also coordinates, monitors and evaluates the implementation of the Canada/Nova Scotia Forest Resource Development Agreement. It coordinates the preparation and updating of the Departmental Strategic Plan and represents the department on the government-wide strategic planning process.

WILDLIFE DIVISION

The Wildlife Division appraises and evaluates the status and population trends of wildlife, assesses habitat quality and needs for various species, and recommends management strategies including seasons and bag limits for game species and furbearers.

Non-Game

Non-game activities concentrated on studies of wildlife species protected by provincial statutes and on monitoring non-game wildlife habitats.

Bald eagle nest productivity studies indicated that 120 nests produced 124 young eagles, six of which were provided to Massachusetts in this final year of a six-year program to assist in rebuilding eagle populations in the northeastern United States. In total, 40 eaglets have been sent to the United States, and as a result three pairs of adult eagles have been observed associated with nests within the Massachusetts release area.

Other non-game activities included studies of cormorant food habits and salmon smolt predation rates in co-operation with the Department of Fisheries and Oceans; release of young peregrine falcons; island seabird studies; counts of wintering eagles and hawks; and collecting bats to monitor the incidence of rabies.

In all, 618 wildlife investigation report forms were processed.

The Non-Game Section was involved in planning for the declaration of the southern bight of the Minas Basin as part of the Western Hemisphere Shorebird Reserve Network. Two wildlife courses were sponsored by the Department and Acadia University.

Big Game

Deer

A second relatively severe winter resulted in spring deer population indices showing a further decline in numbers. As a result license sales were down and there was a three per cent decline in the hunter success rate.

The 95,382 licensed big game hunters took an estimated 46,600 deer during the 1988 big game season. From the big game cards returned, the following kill by county was calculated:

Annapolis	2,355	Kings	2,239
Antigonish	1,154	Lunenburg	4,874
Cape Breton	2,156	Pictou	2,666
Colchester	4,080	Queens	2,336
Cumberland	3,755	Richmond	2,401
Digby	1,647	Shelburne	1,691
Guysborough	2,160	Yarmouth	1,725
Halifax	2,799	Victoria	1,340
Hants	3,563	Unknown	118
Inverness	3,541		

Bear

For the first time in Nova Scotia the black bear was given true big game status with a bear hunting license season and a bag limit separate from deer.

Hunting was permitted only at pre-registered baiting sites during the last two weeks of September. Some 232 residents and 14 non-residents purchased bear hunting licenses. From their report card returns a total kill of 58 bears was calculated. In addition, 163 residents bought bear snaring licenses for the snaring season, namely the last two weeks in October. The reported success rate of 48.9 per cent suggests a total snaring harvest of 82 bears.

Moose

The 200 resident applicants, selected by lottery, harvested 183 moose from the highlands of Inverness and Victoria counties. The harvest consisted of 138 bulls, 43 cows and two calves.

Furbearers

The sale of fur harvester licenses decreased from 3,888 in 1987/88 to 3,044 in 1988/89, primarily as a result of poor pelt prices from the previous year. While harvests were down for most of the important species, the coyote harvest increased to a new high of 581, and bobcats increased slightly. Prices were down for all species, with muskrat, bobcat, fox, raccoon, and coyote showing the largest decreases. The total value of fur to the province declined by over half. (See Table 4.)

The fisher season was closed as a result of biological and harvest data that suggested overharvesting.

Fur harvesters were required to turn in all otter and bobcat carcasses for study of biological characteristics. A coyote winter tracking study was initiated to learn more about the food habits of this predator.

An additional 115 students qualified under the mandatory fur harvester education program, bringing the total number of graduates to 332.

Upland Game and Waterfowl

Small game license sales dropped from 27,734 in 1987/88 to 26,062 in 1988/89. Ruffed grouse, ring-neck pheasants and snowshoe hare showed some increase in harvest, despite a slight decrease in the number of hunters. (See Table 5.)

A pheasant cock crowing census in the Kings County study area showed a 40 per cent increase in the spring population; an increase in harvest was also recorded. For the first time, cock crowing censuses were initiated in other portions of the province. Results showed that the coastal areas of Yarmouth and Digby counties had surprisingly high counts.

Winter population indices for Hungarian partridge remain low and the season is still closed.

As an extension of the International Waterfowl Plan, a second provincial waterfowl management plan was developed with the Canadian Wildlife Service (CWS). A Black Duck Joint Venture and an Eastern Habitat Joint Venture have been developed from the International Plan and are being implemented in Nova Scotia and in the rest of eastern Canada.

The Akin Marsh Wildlife Management Plan was integrated with forest management plans in preparation for the development of a multiple-use forest-wildlife demonstration site.

The Dagger Woods marsh, recently purchased under the Nova Scotia/Wildlife Habitat Canada/Ducks Unlimited Canada Agreement, was inventoried in preparation for the development of a management plan.

The report on the experimental fertilization of a wetland system on the Tobeatic Wildlife Management Area was completed. Fertilization over a three-year period resulted in a 512 per cent increase in invertebrate numbers, twice the number of plants per metre of transect, and twice the number of wildlife species seen per observation.

Water samples were collected for wetland and waterfowl productivity studies.

Assistance and technical advice were provided in a salt marsh productivity and export study conducted with Ducks Unlimited and Acadia University.

Assistance was provided to Acadia University and the CWS for a cooperative study evaluating the impact of lead shot on waterfowl.

Work continued with Acadia University to determine how winter temperatures reduce the harvest of black ducks the next hunting season.

While brood and other population surveys in the Halifax County study unit remained above the mean level, breeding and wintering populations of black ducks in other parts of the province have declined.

During the 1988-89 year 2,074 birds were banded.

Wildlife Habitat

The habitat program evolved from the reassignment of resources previously dedicated to the Inland Fisheries Management Program. Responsibility for recreational fisheries management (with the exception of licensing, enforcement and riparian habitat) was assigned to the Nova Scotia Department of Fisheries, while the Department of Lands and Forests retained the Kelly Lake Fish Rearing Station/Park and expanded the fish habitat program to include protection and enhancement of wildlife habitats.

Input was received from forestry and wildlife interests to produce the publication *Forest/Wildlife Guidelines and Standards for Nova Scotia*. It details forest harvesting guidelines that help protect and enhance wildlife habitat. These guidelines must be followed for forest management on Crown land and be incorporated into management plans for private land.

Fish Rearing Station

During the spring the fish rearing station at Kelly Lake, Halifax County, stocked 66,000 yearling brook trout and 6,500 yearling rainbow trout. The fish were trucked and released by the Department of Fisheries as part of their urban recreational fisheries program.

Kelly Lake was stocked and provided the focus of many angler-use days, including 685 successful fisherman-days. A creel census was

maintained to record catch rates for various strains and stocking schedules.

A small overnight and day-use area accommodated 622 overnight camping units.

A total of 75,000 brook trout and 10,000 rainbow trout were received from the Department of Fisheries for rearing through the winter and spring.

Provincial Wildlife Parks

Visitor numbers at the Provincial Wildlife Park at Shubenacadie reached an all time high of 340,000.

New wolf and coyote enclosures and a new falcon exhibit proved to be popular attractions for visitors and the media.

During the year, 197 woodducks were reared and released in the province through Ducks Unlimited. Fifty males were exchanged with 50 wild birds to introduce new bloodlines for future offspring. Some 546 ring-neck pheasants were hatched and released through private individuals and wildlife associations.

Two Rivers Wildlife Park

Upper Clements Wildlife Park

The Two Rivers Wildlife Park attracted some 80,000 visitors while the Upper Clements Wildlife Park had nearly 70,000 visitors.

PARKS AND RECREATION DIVISION

The provincial parks system is administered by the Parks and Recreation Division and the Operations Branch's subdivisions and district offices. The Parks and Recreation Division is responsible for planning the parks system, park management, public enquiries, construction of some park infrastructure, as well as preparing standards for development and operation. The Operations Branch is responsible for maintenance, operation, policing and, under guidance from Parks Division staff, most capital construction.

The parks provide a variety of outdoor recreational opportunities; preserve natural environments and scenic landscapes; increase public

awareness and appreciation of our natural and cultural heritage; and provide amenities for the travelling public.

In 1988, the parks system was comprised of 118 parks, including 20 campgrounds, 93 day-use, and five wildlife/historic parks. In addition, 152 park reserve properties totalling 30,838 acres (12 490 ha) were administered. An estimated 126,612 persons stayed 43,175 party nights in provincial campgrounds, a five per cent decline from the previous year. Visitation to day-use parks is approaching two million people per year.

Policy Development and Legislation

The new Parks Policy and the new acts resulting from it provide guidelines to ensure the maintenance and expansion of our park system to meet the needs of Nova Scotians well into the 21st century. They will ensure that a renewed emphasis is placed on the provision of more and varied recreational opportunities; preservation of important natural environments and scenic landscapes; increased public awareness and appreciation of our rich natural and cultural heritage; and better service for travellers.

Following up on the new Parks Policy, the policy statement "Our Natural Heritage: Awareness and Access" reaffirmed the Province's commitment to upgrading and expanding the provincial parks system. Announcements were made on several major new park initiatives, including Sandy Bay, Malagash, Cape Chignecto and McNab's Island.

Park Planning and Development Projects

The budget for planning, development and administration was $3,350,000, of which $1,857,000 was directed to capital expenditures. This funding resulted in work at a number of sites, including Dollar Lake, Oakfield, Crystal Crescent Beach, Summerville Beach, Graves Island, Ellenwood Lake, Smileys, Rushton's Beach, Saltsprings, Bayfield, Salsman, Blomidon and Amherst Shore.

In consultation with the Sandy Bay Citizen's Advisory Committee, the Department adopted a park management plan to guide future development and operation of the new park at Sandy Bay, Queens County. Consistent with the plan, the Department initiated negotiations with adjacent landowners toward a cooperative management agreement for the adjoining privately-owned beach and wetland system.

A full-color brochure was produced to increase public awareness of the provincial parks system. Additional brochures were also prepared for the Blomidon, Five Islands and Battery parks.

The Department continued negotiations to convert a 29-mile (47 km) section of the former Liverpool to Yarmouth rail line as a pilot project under the new trails program.

Participation in the Canadian Heritage Rivers Program continued. Following a systematic study of 45 Nova Scotia rivers, a more detailed examination of seven rivers considered to be candidates for heritage river status was undertaken.

Park Land Acquisition

During 1988/89, properties totalling over 1,700 acres (688 ha) were acquired for park purposes. These properties included 500 acres (202 ha) at Malagash; 670 acres (271 ha) at Sandy Bay; and 100 acres (40 ha) at Treen Point.

EXTENSION SERVICES DIVISION

The Extension Services Division coordinates the communication, education and information efforts of the Department.

The division is divided into two subdivisions: Support and Liaison. Support is the creative arm and is responsible for planning, producing and distributing extension tools. Liaison is the delivery arm of Extension, responsible for planning extension programs. The two subdivisions work closely to develop extension tools and programs to effectively meet the needs of affinity groups.

Support

Numerous requests were answered by mail, telephone and in person. Nearly 200,000 pieces of literature were distributed including the periodicals *Forest Times, CoNServation* and *Trappers Newsletter.* Noteworthy publications were *Forestkeeping* (Dr. Wilfrid Creighton's history of the Department), *Forest/Wildlife Guidelines and Standards, Parks: A New Policy for Nova Scotia* and *Nova Scotia Provincial Parks.* The *Forestry Field Handbook* and *Trees of Nova Scotia* were revised.

To help promote red spruce as the newly declared provincial tree, a special pin was produced and distributed.

The audio-visual library supplied films, videos and slides for hundreds of showings by staff, teachers, youth leaders and others. Several new titles were added.

A major exhibit on Nova Scotia forestry was produced for the Silvilog '88 trade show in Quebec. Over two dozen local venues were serviced and a woodlot model was completed.

Advertising consisted of spring and fall re-runs of the regional "Green Gold/L'Or Vert" television commercials, weekend forest fire radio spots and periodic print ads promoting the FRDA.

At the Musquodoboit Valley Forest Nursery and Education Complex two interpretive trails were cut out, the main road was surfaced and graded, and an arboretum area was cleared. Signage was developed, equipment ordered and lesson plans were prepared.

Staff at the Complex replicated 17 units of the popular Museum Forestry Kit and a contractor was hired to develop teacher lesson plans for use with the *Treelore* video.

A second Project Wild facilitators' workshop was held in Truro and considerable effort went into establishing Project Learning Tree on a firm footing.

Liaison

Extension specialists initiated projects and provided assistance in implementing expanded programs identified in the annual extension plans.

Travel assistance was provided to 29 woodlot owners, silviculture contractors and Department staff to attend Silvilog '88.

A forest resource careers counselling binder was prepared and forestry/wildlife public meetings were conducted throughout the province.

Audio-visual equipment, displays and teaching aids were purchased to support extension efforts in field offices and the Musquodoboit Valley Forest Nursery and Education Complex.

Liaison initiated the preparation of publications on parks, measuring stacked firewood, and the Victoria Park interpretive walk.

Several training projects were completed, including 34 on-site and two Level II Forest Worker programs conducted by Commercial Safety College.

Six herbicide information seminars and two nursery workers' pesticide workshops were held.

Eighteen people attended a woodlot owner needs assessment session; eight people developed a curriculum for machine operator training; and four extension methods courses were conducted.

The publication *A Shelterwood Harvesting Manual* was produced and illustrations were provided for *Managing Your Woodlot: A Growing Idea*, a Maritime provinces production.

Liaison staff were active in the promotion of the new Forestry/Wildlife Guidelines, Project Learning Tree, Project Wild and Integrated Resource Management Workshops.

The farm woodlot management course was again offered to NSAC students.

PROGRAM DEVELOPMENT AND EVALUATION

Staff supported the development and coordination of policies and programs with particular emphasis on forest management and industrial development. Two professional staff positions were established to fulfil the Department's role in conducting strategic studies and promoting market development.

Staff provided support for the coordination and administration of projects under the federal/provincial forestry agreements and supported negotiations for the continuation of FRDA activities. Supervision was provided for four consulting contracts issued under FRDA.

Assistance was provided to businesses, the Department of Industry, Trade and Technology and ACOA for the review of development projects in the forest industry sector. Staff, along with the Department of Mines and Energy, participated in initiatives to promote wood energy opportunities. The Department was represented at the national level

coordinating forest industry development policy, wood product related research, trade promotion and government purchases of wood products. In cooperation with the Maritime Lumber Bureau, a visit of U.K. lumber buyers was organized through the Department of External Affairs.

Forest Products Development

After many years of dreams and hard work a training sawmill at the Hugh John Flemming Forestry Centre in Fredericton was officially opened.

Staff represented the Province on the Maritime Forest Ranger School's Sawmill Curriculum Committee.

Four new or rebuilt mills began operations in 1987/88:

Ledwidge Lumber	Under Construction
R.W. Hayman	New Sawmill
Weymouth Wood Workers	New Dry Kiln
Allen Building Supplies	New Dry Kiln

Four companies carried out renovations:

L. E. Elliot	Carriage and Resaw Trimmer
Nelson Douglas	Planning Mill
Bowater	Edger, Twin Band
MacTara	Edger, Chip and Saw

The fire at Bass River Chair Factory rendered the mill a total loss while Long Lake Lumber decided not to rebuild their sawmill that burned a few years ago.

Work continued on the Nova Scotia Forest Products Association safety guidelines for sawmills. Six recovery studies and 10 lumber or variation size studies were conducted.

Urban Forestry

The Department employs a senior forester to assist municipalities in developing urban forestry programs. There has been more interest in developing strategies for enhancing the amenities offered by improved tree management. The forester also administers the Dutch Elm Disease Assistance Program.

FORESTRY BRANCH

This branch is responsible for an ongoing forest inventory, forest research, tree breeding, nursery operations and forest protection. The branch consists of three divisions: Reforestation and Silviculture, Forest Resources Planning and Mensuration, and Forest Protection.

REFORESTATION AND SILVICULTURE

Nursery Operation

Nursery staff has the responsibility of operating facilities, growing seedlings, allocating planting stock equitably, coordinating cone crop surveys and collections, and initiating or monitoring research projects.

Tree distribution by nursery and user agency in 1987 was as follows:

Nursery	Number of Trees Shipped
Lawrencetown	3,016,886
Strathlorne	13,072,000
Wittenburg	4,057,791
Other (purchased)	484,086
	20,630,763

User Agency	Number of Trees Planted
Crown	848,104
Large landowner	9,549,513
FRDA	9,523,921
Small private (non FRDA)	655,375
Other	48,273
	20,625,186

Of the trees planted by large landowners, 5,120,518 were highland spruce (white and black). Of the trees planted on Crown lands and FRDA woodlots, 92,343 were planted by Boy Scout organizations.

In 1988, 912 hectolitres of cones were gathered; the largest collection of cones ever undertaken by the Department.

Construction of a new forest nursery at Middle Musquodoboit was nearing completion by March 31, 1989.

Nursery tours were conducted for technical groups, special interest groups, school children and the general public. Plantation tours were carried out in an effort to establish a better rapport with field personnel.

Tree Breeding

The Tree Breeding Section is responsible for coordinating the overall program of the Tree Improvement Working Group (TIWG) and fulfilling the Department's operational commitment to the effort. Operational requirements are shared with Bowater Mersey Paper Company Ltd., Stora Forest Industries and Scott Worldwide Inc. The Canadian Forestry Service in Fredericton provides technical and strategic advice.

Most existing orchards were enlarged and a black spruce orchard was started at Debert. In total, over 30 acres (12 ha) of seed orchards were planted by working group members.

Because of heavy cone crops, significant progress was made in the controlled breeding program. Over 135,000 control-pollinated seeds were produced and will be used to establish the first tests of red and white spruce plus trees.

A series of lowland black spruce family tests were planted in four locations. These tests will assess the performance of the new families planted in orchards this year.

A major effort was made to complete lowland black spruce selection. Seed was extracted and sown in the greenhouse for establishment of family tests in the spring of 1990. Later, these same families will also be grown for establishing orchards.

Tree Breeding Centre staff conducted tours for educational, professional and special interest groups. The TIWG is represented on several regional and national committees dealing with issues of concern.

Entomological Services

The 23 Pest Detection Officers submitted 437 insect and disease samples and assessed 44 plantations. Insects and pathogens causing problems were pine leaf adelgid, seedling debarking weevils, gypsy moth, oak leaf roller, oak leaf shredder, Stillwell's syndrome, and Dutch elm disease.

Surveys were conducted for spruce budworm, hemlock looper, balsam gall midge, balsam twig aphid, white-marked tussock moth, and gypsy moth. Fourteen light traps were used to monitor photopositive forest insects.

Forest Research

Four trials were established in managed and unmanaged hardwood and softwood stands and 166 permanent plots. Management options were measured for their effect on tree growth. Data generated is used to update the softwood growth and yield model and to develop a similar model for hardwood.

Three trials were established to monitor survival and performance of nursery stock, determine the most suitable season(s) for planting bareroot species, and measure performance of trees planted under hardwood in areas difficult to site-prepare or which regenerate naturally.

A trial was established to measure damage to natural hardwood and softwood regeneration during the final cut in shelterwood stands. Some 448 regeneration plots were remeasured to determine the success of shelterwood treatments with respect to natural regeneration.

In a continuing effort to determine the effectiveness of herbicides, five new trials were established, and 2100 plots in 23 previously established trials were remeasured.

Studies on drainage continued with two trials established in co-operation with Stora Forest Industries and Scott Canadian Timberlands.

The newly established Monitoring Section monitored operational spring and fall planting and operational herbicide applications throughout the province. Assessments to measure the effectiveness of manual weeding, the success of red spruce plantings in Cape Breton, and the performance of fall plantations were started or completed.

To expand the data base developed in 1986-87, studies in manual productivity were completed. These data will be used to refine the silviculture treatment assistance rates.

Research continued to develop effective cultural practices in both natural stands and plantations.

Research results were distributed to the public, to government and industry through Forest Research Reports, seminars and field tours.

FOREST RESOURCES PLANNING AND MENSURATION DIVISION

Forest Inventory

Sound forest management requires constantly updated data collected and maintained through a recurring inventory. Such an inventory commenced in 1964 and is regularly updated. A province-wide system of 1,765 permanent plots of 0.1 acre (0.040 ha) provides data on forest growth and yield. These are measured every five years.

During the spring and summer of 1988, Atlantic Canada Airborne Sensing Inc., under contract, took aerial photographs of Digby and part of Yarmouth counties using true color film.

From April to August a crew of 14 established 2,000 sample plots in over 400 stands in Queens and Lunenburg counties. Data on wildlife habitats was gathered concurrently. From August to December the crew did the fourth remeasurement of 400 permanent sample plots.

Data from the new inventory (Queens, Lunenburg) was compiled and reports presented.

Sixteen lots or parcels of land totalling 9,447 acres (3825 ha) were cruised and evaluated for possible trade or purchase by the Crown.

The photo interpretation of Cumberland County was completed. This included the interpretation of all lands for entry into the G.I.S system.

By August the Management Information Section had digitized 50 base maps and 50 forest cover type maps. An additional 50 forestry and base maps were also completed.

Programming for the user-friendly forest query system was completed. An additional remote query terminal was installed in the North Central Subdivision to provide quick access to the Cumberland County data base for Operations personnel.

During 1988 the section began to develop a forest treatment data base which will store attribute and locational data for all forest management treatments reported to the Department. This data base will then be used to update forest cover type maps via the G.I.S.

The Remote Sensing Section continued to investigate radar for forestry using a computer designed to analyze satellite imagery. It is expected that within the next five years the Department will be using satellite imagery to update parts of the digital data base residing on the G.I.S.

The Engineering Section approved three gravel crushing contracts and one contract for one mile (1.6 km) of road building.

Nineteen hydrology reports were completed for the Crown and Private Lands divisions.

Eight contracts were completed for the Parks and Recreation Division, ranging from rock protection and excavation, to road building, gravelling and paving.

Timber Loan Board

Five applications totalling 1388 acres (562 ha) were appraised. Three were approved, for a total of $121,500.00 in loans. Annual inspections, investigations and other required reports were coordinated on some 50 to 52 active loans.

Scaling

Check scale procedures for primary wood products harvested on Crown land were established and/or monitored, with assistance and improvements supplied where required.

A system of determining solid content in stacked wood was implemented at Stora Forest Industries. Provincial averages may have to be adjusted to reflect decreases in solid content due to mechanical harvesting and machine piling.

A check scale program whereby weight or mass is converted to volume has been implemented for tree-length material at Scott Maritimes Ltd.

A method of volume scaling for tree-length material is being assessed.

Assistance was given for various scaling programs or to resolve scaling problems. Several disputes and rescales were handled by the Supervisor of Scaling.

The Annual Scalers School attracted 22 candidates, of whom 95 per cent graduated. Twenty one scalers attended a refresher course.

Five Nova Scotia Community Colleges were granted permission by the Board of Examiners (Scaling) to conduct Provincial Scalers Examinations. A total of 47 students wrote the exams with a combined pass rate of 77 per cent.

FOREST PROTECTION DIVISION

The Provincial Forest Fire Control Centre [P.O. Box 130, Shubenacadie, N.S., B0N 2H0 (758-2232)] is responsible for the acquisition, distribution and maintenance of fire control equipment, for the motor vehicle fleet, and for heavy equipment. The centre is also responsible for the operation and maintenance of the Integrated Mobile Radio System servicing user departments and agencies of the government, hospitals, ambulances, fire departments and the RCMP.

The 1988 fire season was one of the best on record; 328 fires burned a total of 825.8 acres (334 ha). The season began with five fires in February and continued through the spring with above-normal fire starts due to the unusually dry weather. The February-to-May period accounted for 68 per cent of all fires; these burned 91 per cent of the total acreage.

From June to October Nova Scotia experienced abnormally wet conditions, which greatly reduced the number of fires. The fire weather index reached high on 12 days and extreme on only one day during the fire season, so there was no need to ban setting fires or travelling in the woods.

The aircraft used were a Cessna 185 Sky Wagon, a Beaver on floats, four Hughes 500s and one Bell 212 helicopter with helitack crew.

All helicopters used "Bambi Buckets" equipped with instant deployment systems. Helicopters were used on 33 fires and fixed wing aircraft on 14 fires. The Bell 212 and helitack crew were used on 25 fires. Overall, aircraft were utilized on 47 fires or 14 per cent of the total fire starts.

A conversion of fire hose to "quick connect" couplings began in Western Nova Scotia. A foam injection system for the 212 helicopter was purchased and is being tested.

A data base program was developed and implemented for fire statistics and a new fire report data base. New computer software included a fire weather analysis package, a fire weather index display system and a fire analysis package.

The fire training program consisted of courses on: fire pump maintenance, thermovision, basic fire behaviour and suppression, St. John Ambulance first aid, and fire safety and an introduction to suppression for summer students and casual crews.

The Fire Training Officer attended a fire training seminar in Idaho.

Training aids were supplied to district offices for local programs and to Parks Canada. A fire investigation course was presented at Kouchibouquac National Park in New Brunswick.

A prescribed burning seminar, presented by National Resources Fire Specialists from Ontario, was held at the Fire Centre for Lands and Forests, Forestry Canada and forest industry staff.

Fire prevention activities included print and electronic media advertising, displays, and demonstrations featuring aircraft, water bombing and helitack crew at exhibitions and fairs. Fire prevention was promoted with tours of the Fire Centre and Aircraft Services along with presentations to youth groups.

OPERATIONS BRANCH

The Operations Branch is responsible for a wide range of duties, including operation of district and subdivision offices, provision of staff and equipment for forest fire protection, enforcement of acts that pertain to hunting and provision of hunter safety education, operation of provincial parks, provision of technical services for increased forest production on Crown and privately owned lands, implementation of wildlife programs and the maintenance of the Department's buildings, facilities and vehicles.

The branch comprises four divisions: Operations and Forest Management Private Lands, Forest Management Crown Lands, Enforcement and Hunter Safety, and Forest Resources.

The province is divided into eight geographical subdivisions, each staffed with a resource manager, a Crown lands forester, a private lands forester and, in most cases, a wildlife biologist. Within the subdivisions are districts headed by supervisors and staffed by forest technicians, field clerks, maintenance personnel and forestry crews.

OPERATIONS FIELD OFFICES

WESTERN
(Yarmouth, Digby and Shelburne counties)

10 Starr's Road
Yarmouth, N.S.
B5A 2T1
(742-7846)

P.O. Box 57
Barton, N.S.
B0W 1H0
(245-2164)

P.O. Box 369
Shelburne, N.S.
B0T 1W0
(875-2501)

Kemptville Depot
Kemptville, N.S.
B0W 1Y0
(761-2227)

SOUTH SHORE
(Queens and Lunenburg Counties)

99 High Street
Provincial Building
Bridgewater, N.S.
B4V 1V8
(543-8167)

McGowan Lake Depot
Caledonia, N.S.
(242-2550)

P.O. Box 190
Milton, N.S.
B0T 1P0
(354-3462)

Chester Grant Depot
Chester, N.S.
(275-3574)

Wiles Lake Depot
Bridgewater, N.S.
(543-2394)

VALLEY
(Annapolis and Kings counties)

136 Exhibition Street
Provincial Building
Kentville, N.S.
B4N 4E5
(678-8907)

P.O. Box 130
Lawrencetown, N.S.
B0S 1M0
(584-2229)

SOUTH CENTRAL
(Halifax and Hants counties)

Box 23, Site 2
R.R.#1, Waverley, N.S.
B0N 2S0
(861-2560)

P.O. Box 190
Musquodoboit Harbour, N.S.
B0N 1X0
(889-2332)

P.O. Box 112
Middle Musquodoboit, N.S.
B0N 1X0
(384-2290)

P.O. Box 130
Shubenacadie, N.S.
B0N 2H0
(758-3437)

Stanley Hangar
R.R.#1,
Scotch Village, N.S.
B0N 2G0
(632-2410)

P.O. Box 190
Windsor, N.S.
B0N 2T0
(798-2016)

Lewis Lake Depot
R.R.#3, Armdale, N.S.
B3L 4J3
(876-2308)

NORTH CENTRAL
(Cumberland and Colchester counties)

626 College Road
Bible Hill, N.S.
B2N 2R2
(893-5620)

P.O. Box 130
Oxford, N.S.
B0M 1P0
(447-2115)

P.O. Box 428
Parrsboro, N.S.
B0M 1S0
(254-3241)

EASTERN
(Pictou, Guysborough and Antigonish counties)

11 James Street
Provincial Building
Antigonish, N.S.
B2G 1R6
(863-4513)

P.O. Box 50
Guysborough, N.S.
B0H 1N0
(533-3503)

R.R.#2, Aspen
Guysborough Co., N.S.
B0H 1E0
(522-2024)

Pictou County District Office
P.O. Box 457,
New Glasgow, N.S.,
B2H 5E5
(752-3181)

Antigonish Depot
(863-1502)

MacLellan's Brook Depot
(752-5247)

North Riverside Depot
Guysborough, N.S.
(533-3333)

CAPE BRETON NORTH
(Inverness and Victoria counties)

P.O. Box 610
Baddeck, N.S.
B0E 1B0
(295-2554)

P.O. Box 130
Whycocomagh, N.S.
B0E 3M0
(756-2339)

CAPE BRETON SOUTH
(Richmond and Cape Breton counties)

Coxheath Depot
R.R.#6, Sydney, N.S.
B1P 6T2
(563-3371)

P.O. Box 363
Provincial Building
St. Peter's, N.S.
B0E 3B0
(535-2032)

FOREST RESOURCE DEVELOPMENT AGREEMENT

The Canada/Nova Scotia Forest Resource Development Agreement (FRDA) was signed for an initial five-year period terminating March 31, 1987 and was subsequently extended to March 31, 1989.

The objectives of the agreement were:

a) to encourage and support forest management that would increase the sustainable supply of softwoods to an average of 3.3 million cubic metres annually and to help ensure the continued viability and competitiveness of the present wood-based industry;

b) to improve and increase forest utilization to enhance future forest industry development opportunities.

There were six programs under the agreement: Forest Resource Enhancement on Private Lands; Forest Resource Enhancement on Crown Lands; Research and Development; Support Services; Education, Information and Evaluation; and Forest Nursery Construction.

All programs were operational in 1988-89 and were well received by the target groups.

For the seven-year period, both private and Crown land programs exceeded their original objectives by conducting 221,310 hectares of silviculture activity. Participation by landowners in the woodlot management program increased from 2,600 in 1982 to 6,703 by March 31, 1989.

Other accomplishments under FRDA included: a student internship program; continued development of the Musquodoboit Valley Forest Nursery and Education Complex; publication of nine research reports; and several public education activities.

The FRDA expired on March 31, 1989 and negotiations between the Province and the federal government for a new agreement were initiated. The agreement is the lifeblood for 150 silviculture contractors, 18 Group Ventures, and provides over 9,000 weeks of employment annually.

PRIVATE LAND FOREST MANAGEMENT

Individual Assistance

Forestry consultants and Department staff prepared 396 small private forest management plans. This brings the total number of plans to 4,655, with 861,796 acres (348 757 ha) under management. These numbers exclude Group Ventures.

Three pulp and paper companies and 11 large landowners were active under the program. (See Table 9).

Group Forest Management

In 1988/89, there were 18 group companies and cooperatives whose objective was to increase the harvest from private lands by encouraging the assembly of small woodlots into larger operating areas, and by providing groups with forest management and marketing expertise.

As of March 31, 1989 the 18 groups had 1950 shareholders with 274,178 acres (110 956 ha) of forest land under management, for an average ownership per shareholder of 141 acres (57 ha). The value of activities by these groups during the year was approximately $10,930,000. The activity level of 1988-89 surpasses that of 1987-88 by some $1.65 million.

Operating and Administration

The groups claimed $1,848,835 for operating expenditures. Each group, under the direction of an elected board of directors, is responsible for preparing management plans, implementing operating plans and selling forest products. The shareholders paid a management fee of 5 per cent on all wood sales (roadside price), which was credited to the group's operating costs. During 1988/89 this fee totalled $220,855. This year 31,320 acres (12 675 ha) were brought under Group Management.

Forest Improvement Activities

The groups claimed $4,668,722 from Forestry Canada under the FRDA for the following work:

Roads, in miles	281 (453 km)
Bridges and Culverts, in feet	240
No. of Ponds	57
Boundaries, in miles	222 (358 km)
Silviculture, in acres	16,795 (6800 ha)

CROWN LAND FOREST MANAGEMENT

Pulp and Paper Companies

Stora Forest Industries Ltd, Port Hawkesbury

The 50-year license and management agreement with Stora Forest Industries Ltd. covers 1,423,274 acres (575 979 ha) of Crown land with additional areas being added yearly until a total of 1,500,000 acres (607 042 ha) is reached. The agreement allows an average annual allowable harvest of 330,000 cords (1,196,105 m^3 (stacked)) on a sustained yield basis.

Under the Forest Resource Development Agreement, funding was available for silviculture treatments on Crown lands. Under the company's license agreement, the Province returned to the company a stumpage rebate under a silviculture agreement for silviculture work done by the company.

Stora submits harvesting and silviculture proposals (in the form of an annual forest management plan) to the Department for approval. Department staff make field inspections before approvals are given as well as during and following the operations on approved jobs.

Scott Worldwide Inc., Abercrombie Point

A 50-year license and management agreement gives the company the right to cut stumpage on 203,000 acres (82 153 ha) of Crown land for 50 years commencing in 1966. It provides for the annual allowable harvest of 50,000 cords (181 228 m^3 (stacked)) on a sustained yield basis.

Scott submits all harvesting and forest improvement proposals (in the form of a five-year management plan) to the Department for prior

approval. The plan must follow the agreed-upon guidelines and show where operations are to take place, products to be extracted and proposed road construction. Annual cutting plans and annual silvicultural plans identify specific locations of various operations. Department staff make field inspections before approvals are given.

Other Wood-processing Facilities

The Department has stumpage agreements with several lumber companies and one hardboard manufacturer granting the right to cut specific volumes of wood on designated Crown lands. (See Table 13).

Unlicensed Crown Lands

Most of the unlicensed Crown lands are situated in the central and western parts of the province. The larger units or blocks have been placed under management plans drawn up in consultation with the Forest Planning Branch.

Under the Forest Resource Development Agreement, forest improvement activities were carried out on these lands. Under this agreement silviculture access roads were constructed while some older roads used for access to silviculture treatment areas received general maintenance.

Forest Product Sales

Letters of authority and standing permits were issued to many citizens requesting fuelwood.

During the calendar year 3,538 cords (12 825 m^3 (stacked)) of fuelwood were cut from unlicensed Crown lands. An additional 2,794 cords (10 127 m^3 (stacked)) were cut from Crown lands under license to forest industries in cooperation with the provincial government.

Timber Licenses

Eleven timber licenses, granting short-term cutting rights on parcels of Crown land ready to be harvested, were issued to successful tenderers following advertisement.

Sales by Tender (Roadside)

During the year one parcel of sawlogs, pulpwood, fuelwood and studwood was sold by letter of authority to the highest bidder.

General Letters of Authority

A total of 920 letters of authority were issued for the cutting and removal of forest products for personal use, aggregate material, quarried rock, Christmas wreath material, construction of access roads, and other short-term uses.

ENFORCEMENT AND HUNTER SAFETY

Hunter Safety Education

The 1988 hunting season was the safest ever recorded in Nova Scotia.

A special bowhunting season of two weeks duration was introduced in 1988 and required the implementation of a special bow instructors course. Thirty-four new bow instructors were certified and 637 people took the course.

Forty-two additional instructors were trained in Hunter Safety Education. Some 299 courses (bow and firearm) were conducted in the province.

Staff were involved in enforcing the Wildlife Act, Beaches Preservation & Protection Act, Crown Lands Act, Forests Act, Forest Enhancement Act, Off-Highway Vehicles Act and the Provincial Parks Act. Assistance was rendered under the Act to Protect Property and the Federal Fisheries Act.

New legislation was passed which involved the Arbor Day Act, Official Tree Act, Provincial Parks Act, Trails Act. There were major amendments to the Beaches Preservation and Protection Act.

The total number of prosecutions under all acts was 424.

LAND SERVICES BRANCH

The Land Services Branch consists of the Surveys Division, the Land Resources Division, and the Provincial Crown Lands Record Centre.

The Surveys Division surveys, monuments and maps the Crown lands administered by the Department and maintains surveyed Crown land boundaries. In addition, it surveys land for purchase or expropriation; for environmental, recreational, or cultural purposes; and for other government departments or agencies. The division is also responsible for the investigation and settlement of claims to ungranted land.

The Land Resources Division is responsible for the acquisition and disposal of Crown lands administered by the Department. It prepares all legal documentation related to temporary and permanent land transfers.

The Provincial Crown Lands Record Centre coordinates provincial landholdings information for all government departments and agencies, including that for all Crown land records dating back to 1731.

SURVEYS DIVISION

There were 103 miles (173 km) of Crown boundary surveyed requiring the placement of 530 survey monuments. The total area of Crown land surveyed was 7,372 acres (2 983 ha).

There were also 43 miles (69 km) of other boundary surveyed requiring the placement of 389 monuments. This work constituted a total of 959 acres (388 ha).

During the period, 430 miles (692 km) of Crown boundary were maintained requiring the replacement of 845 survey monuments.

Claims and Research Section

Pursuant to the provisions of the Crown Lands Act, the Department dealt with claims for 81 parcels of ungranted land. Approximately 60 were recommended for release and the remainder were considered Crown. Forty-six certificates, including plan and description, were prepared by the Crown asserting no interest or claim to 9,439 acres (3 819 ha) of ungranted land.

Documentation and mapping was prepared for the turnover of 13,952 acres (5 646 ha) of Crown land to Stora Forest Industries Ltd. pursuant to the provisions of the Nova Scotia Pulp Limited Agreement Act.

One hundred and forty-one Orders of Survey were issued during the year to Department and private surveyors.

Approximately 250 toponymy and nomenclature enquiries were received. Some 200 were clarified and answered by telephone, 15 required research and written replies, and 10 required investigative field work.

Plan Examination Section

The Plan Examination Section is responsible for the inspection and final approval of survey projects carried out by the survey field staff.

The following indicates the number of plans compiled, inspected and finalized during the 1987-88 fiscal year:

Survey Orders (field plots) finalized	288
Condominium plans inspected	16
Section 37(1) grant plans	51
Compiled plans	75
Aquaculture leases inspected	12

Mapping Section

Drafting Assignments:

Large scale drafting assignments	44 sheets
Scribing of orthophoto sheets	128 sheets
Orthophoto plotting and data compilation (1:10,000)	160 sheets
Boundaries showing ecological reserves and special places	As required
Special Project drafting for Parks (booklet size)	180 sheets
Revisions of Crown land mapping	820
Transferring data to GIS 1:10,000 prep. sheet	300 sheets

Twenty-six photogrammetry models were compiled for Parks Division and others. Line kilometres of photos flown were 3100 line km at 1:10,000 with 5.5 line km for mapping control.

There were 248 reproduction/darkroom work orders requiring the preparation of 1188 pieces of material.

Sixty-nine GIS maps were digitized and 30 maps were archived.

The Air Photo Library handled 1,000 photo requests. The Provincial Map Library processed 4,274 requests and produced 26,050 maps. Total revenue for maps and photos was $55,000.

LAND RESOURCES DIVISION

During the fiscal year, 14 parcels of Crown land were transferred to other provincial departments and to the federal government. Fourteen grants were issued involving approximately 370,652 acres (150 062 ha). Thirteen deeds were issued involving approximately 508 acres (206 ha).

Some 125 letters of authority were prepared for use of Crown land, for a variety of domestic and business purposes as well as activities on inland and coastal waters.

Two areas were proclaimed under the Provincial Parks Act.

Eleven Certificates of Title were issued under the Land Titles Clarification Act.

Thirty-nine tenders were called during the fiscal year including 17 parcels for stumpage, one parcel for roadside sales of forest products, and 12 parcels for Christmas trees. Nine special tenders were called on land used for canteen construction and concession, roads, sewage systems or beach redevelopment.

Eleven timber licenses were issued for cutting Crown land stumpage. Sixty-three leases involving approximately 212 acres of land were issued, including 42 campsite leases and 21 special leases. Fifty-three trespasses on Crown land were reported. One permit was issued for a fishermen's reserve.

For more information on activities relating to land acquisition, see Tables 6 and 7.

PROVINCIAL CROWN LANDS RECORD CENTRE

Pertinent information and documents relating to land holdings of 19 government departments and agencies were received by the Centre. Title, legal and statistical information relating to 31,338 parcels of land was processed and the location and land use of properties have been plotted on resource series and Crown land forestry series maps.

Records of transactions totalling 13,900 images were microfilmed. Documents received from the Registries of Deeds for land acquisitions by all departments totalled 1,253.

Conversion of the mapping base to the Resource Series maps was completed for Digby County.

Approximately 2,700 requests were received, 1,500 of which required searching vault information, and 1,200 required a written reply along with copies of grant information.

Some 115 aquaculture lease requests were researched for the Department of Fisheries and 112 Quieting of Title files were processed for the Department of Attorney General.

The centre recorded and posted the following documents:

25 rejected petitions; 47 Section 37 certificates; 23 C-files; 33 D-files; 74 leases; three Quieting of Titles; 55 land purchases; 14 grants; 139 plot plans; and six Certificates of Title. Thirty-six petition numbers were issued.

TABLE 1
TIMBER PRODUCTS IN NOVA SCOTIA
(Calendar Years 1987 & 1988)

Product	Unit	1987	1988	Increase	Decrease
Lumber, softwood	mfbm	203,385	206,593	3,208	—
Lumber, hardwood	mfbm	6,558	9,499	2,941	—
Pulpwood, softwood	m^3(stacked)	4,743,902	4,776,228	32,326	—
Pulpwood, hardwood	m^3(stacked)	665,134	518,953	—	146,181
Pulp chips, residue		N/A	N/A		
Railway ties	mfbm	250	267	17	—
Mine packs	mfbm	1,571	984	—	587
Pit props & poles & piling	m^3(stacked)	1,026	3,043	2,017	—
Laths	x 10^3 pieces	6,216	4,668	—	1,548
Shingles	squares	429	455	26	—
Staves & headings	mfbm	98	126	28	—
Boxwood	mfbm	1,676	1,991	315	—

TABLE 2
PROVINCIAL CROWN LAND FOREST PRODUCTION,
Calendar Year 1988
(Common Units of Measure)

	SAWLOGS[1]		PULPWOOD				FUELWOOD				OTHER PRODUCTS**				WHOLE TREE§ CHIPS	
	Swd.	Hwd.	Softwood		Hardwood		Softwood		Hardwood		Softwood		Hardwood			
County	mfbm	mfbm	m³S	Cords	m³S*	Cords	m³S	Cords	m³S	Cords	m³	Cords	m³S	Cords	Tonnes	Cords
Pictou	510	0	135 467	37,375	22 845	6,303	255	70	4 228	167	0	0	0	0	368	666
Antigonish	62	0	77 301	21,327	3 829	1,056	0	0	678	187	0	0	0	0	8 468	15,327
Guysborough	1,530	181	299 019	82,498	27 953	7,712	126	35	2 834	782	10	3	0	0	54 514	98,670
Colchester	2,742	5	33 160	9,149	13 465	3,715	191	53	4 972	1,372	0	0	0	0	0	0
Cumberland	1,078	128	11 002	3,035	170	47	360	99	5 245	1,447	766	211	0	0	0	0
Hants	559	2	159	44	0	0	36	10	369	102	0	0	0	0	0	0
Halifax	3,199	0	80 187	22,123	10 526	2,904	32	9	7 843	2,164	0	0	0	0	0	0
Annapolis	1,625	33	9 019	2,488	14 981	4,133	36	10	496	137	0	0	0	0	217	393
Kings	256	63	4 335	1,196	19 896	5,489	20	6	183	50	0	0	0	0	0	0
Queens	1,188	3	1 634	451	10 076	2,780	30	8	1 168	322	0	0	0	0	0	0
Lunenburg	116	3	2 852	787	7 099	1,958	265	73	2 474	682	0	0	0	0	0	0
Digby	376	31	2 271	627	0	0	26	7	3 133	864	257	71	0	0	0	0
Yarmouth	51	18	654	181	1 723	475	29	8	712	197	789	218	0	0	0	0
Shelburne	282	6	65	18	160	44	33	9	794	219	193	53	0	0	0	0
Inverness	7	846	68 670	18,946	31 176	8,601	7	2	87	24	0	0	0	0	45 218	81,844
Victoria	0	185	33 000	9,105	9 570	2,640	31	8	545	150	0	0	0	0	0	0
Cape Breton	0	9	3 162	872	3 480	960	55	15	711	196	0	0	0	0	0	0
Richmond	0	0	7 147	1,972	47	13	39	11	689	190	0	0	0	0	0	0
TOTAL	13,581	1,513	769 104	212,194	176 996	48,830	1 571	433	37 161	9,252	2 015	556	0	0	108 785	196,900

[1] Sawlogs include all products to be sawn

* m³(stacked) based on 8 ft. (2.44 m) bolts

** Products not elsewhere specified converted to m³ solid wood

§ Whole tree chips are all species and all DBH

TABLE 3
PROVINCIAL CROWN LAND FOREST PRODUCTION
CALENDAR YEAR 1988
(Cubic Feet and Cubic Meters Solid Wood)

	SAWLOGS				PULPWOOD			
Country	Softwood m^3*	Softwood cu.ft.	Hardwood m^3	Hardwood cu.ft.	Softwood m^3	Softwood cu.ft.	Hardwood m^3	Hardwood cu.ft.
Pictou	2 883	101,812	0	0	84 667	2,989,990	14 278	504,223
Antigonish	352	12,431	0	0	48 313	1,706,159	2 393	84,508
Guysborough	8 645	305,295	1 022	36,092	186 887	6,599,858	17 471	616,983
Colchester	15 491	547,060	30	1,059	20 725	731,897	8 416	297,208
Cumberland	6 089	215,031	721	25,462	6 876	242,824	106	3,743
Hants	3 161	111,630	11	389	89	3,143	0	0
Halifax	18 072	638,207	0	0	50 117	1,769,867	6 579	232,335
Annapolis	9 182	324,260	188	6,639	5 637	199,069	9 363	330,651
Kings	1 446	51,065	358	12,643	2 709	95,667	12 435	439,138
Queens	6 711	236,997	16	565	1 021	36,056	6 297	222,377
Lunenburg	657	23,202	14	494	1 782	62,931	4 437	156,691
Digby	2 139	75,538	175	6,180	1 420	50,147	0	0
Yarmouth	291	10,277	103	3,637	409	14,444	1 077	38,034
Shelburne	1 592	56,221	35	1,236	41	1,448	100	3,531
Inverness	42	1,483	4 780	168,804	42 919	1,515,672	19 485	688,107
Victoria	0	0	1 043	36,833	20 625	728,366	5 982	211,252
Cape Breton	0	0	51	1,801	1 976	69,782	2 175	76,809
Richmond	0	0	0	0	4 467	157,751	30	1,059
TOTAL	76,753	2,710,509	8 547	301,834	480 680	16,975,071	110 624	3,906,649

Conversion Factors: 1 mfbm: 200 cubic feet: 5,663 36 Cu.Ft. solid wood equivalent
1 cord 8 foot bolts: 3.624 56 Cu.Ft.(stacked): 2.208 72 Cu.Ft. solid wood
1 m^3 (stacked) × 0.609 375 = 1 Cu.Ft. solid wood
1 m^3 = 35.3147 cubic feet

TABLE 3 — Continued
PROVINCIAL CROWN LAND FOREST PRODUCTION
CALENDAR YEAR 1988
(Cubic Meters and Cubic Feet Solid Wood)

	FUELWOOD				OTHER PRODUCTS				TOTAL			
County	Softwood m^3	Softwood Cu.Ft.	Hardwood m^3	Hardwood Cu.Ft.	Softwood m^3	Softwood Cu.Ft.	Hardwood m^3	Hardwood Cu.Ft.	Softwood m^3	Softwood Cu.Ft.	Hardwood m^3	Hardwood Cu.Ft.
Pictou	145	5,120	2 410	85,108	0	0	0	0	87 695	3,096,922	16 688	589,332
Antigonish	0	0	387	13,667	0	0	0	0	48 665	1,718,590	2 780	98,175
Guysborough	72	2,543	1 615	57,033	6	212	0	0	195 610	6,097,908	20 108	710,108
Colchester	109	3,849	2 834	100,082	0	0	0	0	36 325	1,282,806	11 280	398,350
Cumberland	205	7,239	2 990	105,591	466	16,457	0	0	13 637	481,586	3 817	134,796
Hants	20	706	211	7,451	0	0	0	0	3 261	115,867	221	7,804
Halifax	18	636	4 470	157,857	0	0	0	0	68 208	2,408,745	11 049	390,192
Annapolis	20	706	283	9,994	0	0	0	0	14 839	524,035	9 833	347,249
Kings	12	424	104	3,673	0	0	0	0	4 167	147,156	12 898	455,489
Queens	17	600	666	23,519	0	0	0	0	7 749	273,654	6 979	246,461
Lunenburg	151	5,332	1 410	49,794	0	0	0	0	2 590	91,465	5 861	206,979
Digby	15	530	1 786	63,072	157	5,544	0	0	3 730	131,724	1 961	69,252
Yarmouth	16	565	406	14,338	480	16,951	0	0	1 196	42,236	1 586	56,009
Shelburne	19	671	453	15,998	118	4,167	0	0	1 768	62,436	587	20,730
Inverness	4	141	50	1,766	0	0	0	0	42 964	1,517,261	24 314	858,642
Victoria	17	600	311	10,983	0	0	0	0	20 643	729,001	7 335	259,003
Cape Breton	31	1,095	405	14,302	0	0	0	0	2 008	70,912	2 632	92,948
Richmond	22	777	393	13,879	0	0	0	0	4 489	158,528	422	14,903
TOTAL	893	31,534	21 184	748,107	1 227	43,331	0	0	559 564	18,950,832	140 351	4,956,422

Conversion Factors: 1 mfbm: 200 cubic feet: 5.663 36 m^3 solid wood equivalent
1 cord 8 foot bolts: 3.624 56 m^3 (stacked) 2.208 72 m^3 solid wood
1 m^3 (stacked) × 0.609 375 = 1 m^3 solid wood
1 m^3 = 35.3147 cubic feet

TABLE 4
N.S. WILD FUR HARVEST AND VALUE TO TRAPPER — 3 YEARS

	1986/87			1987/88			1988/89		
	Number Taken	Average Price	Total Value	Number Taken	Average Price	Total Value	Number Taken	Average Price	Total Value
Beaver	4,320	$44.32	$191,462.40	6,708	$29.27	$196,343.16	3,510	$27.35	$95,998.50
Muskrat	36,757	$5.18	$190,401.26	37,767	$5.23	$197,521.41	34,042	$2.55	$86,807.10
Otter	457	$51.76	$23,654.32	507	$38.88	$19,205.16	317	$37.45	$11,871.65
Mink	3,059	$41.62	$127,315.58	3,152	$35.41	$111,612.32	2,096	$29.87	$62,607.52
Bobcat	1,061	$187.24	$198,661.64	574	$116.44	$66,836.56	697	$64.29	$44,810.13
Fox	2,220	$41.29	$91,663.80	1,687	$31.11	$52,482.57	1,519	$19.05	$28,936.95
Raccoon	10,653	$18.33	$195,269.49	8,671	$12.47	$108,127.37	3,065	$5.79	$17,746.35
Skunk	37	$1.56	$57.72	23	$2.24	$51.52	22	$1.38	$30.36
Squirrel	1,656	$0.63	$1,043.28	1,267	$0.56	$709.52	4,188	$0.40	$1,675.20
Weasel	1,077	$1.49	$1,604.73	682	$1.34	$913.88	688	$1.07	$736.16
Fisher	40	$174.90	$6,996.00	37	$102.24	$3,782.88			
Coyote	271	$34.38	$9,316.98	360	$17.08	$6,148.80	581	$10.52	$6,112.12
N.S. Total			$1,037,447.20			$763,735.15			$357,332.04

TABLE 5
CALCULATED KILL FOR UPLAND GAME
HARVESTED BEFORE DECEMBER 16,
1984-85 TO 1988-89

	84/85	85/86	86/87	87/88	88/89
Ruffed Grouse	97,438	132,423	90,765	78,736	86,610
Ring-Neck Pheasant	16,335	12,669	16,324	9,712	11,720
Snowshoe Hare	220,539	206,636	173,857	134,042	149,023

TABLE 6
LANDS RECONVEYED TO THE CROWN, BY COUNTY 1988/89
(45 reconveyances)

County	Acres	Hectares
Annapolis	218	88
Antigonish	6	2
Cape Breton	203	82
Colchester	0	0
Cumberland	0	0
Digby	0	0
Guysborough	501	203
Halifax	971	393
Hants	0	0
Inverness	531	215
Kings	0	0
Lunenburg	8	3
Pictou	1	0
Queens	505	205
Richmond	435	176
Shelburne	964	390
Victoria	209	85
Yarmouth	327	132
TOTAL	4879	1974

TABLE 7
LANDS RECONVEYED TO THE CROWN, BY PURPOSE
1988-89

Purpose	Acres	Hectares
Timber Reserve	3561	1442
Recreation & Park Reserve	1198	485
Right of Way	8	3
Historic Site	13	5
Environment	90	36
Fire Tower	2	1
Surplus Land	1	0
Ducks Unlimited	6	2
TOTAL	4879	1974
Expropriation	20	8
Transfer of Administration and Control	69	28

TABLE 8
FOREST MANAGEMENT PLANS FOR SMALL INDIVIDUAL WOODLOTS, BY SUBDIVISION
1988-89

Subdivision	No. Plans Completed and signed	Area Managed Completed and Signed acres	ha
Eastern	85	11,340	4,589
North Central	47	8,061	3,262
South Central	34	6,015	2,434
Valley	43	5,365	2,171
South Shore	43	6,420	2,598
Western	21	4,450	1,801
Cape Breton North	29	3,889	1,574
Cape Breton South	94	9,111	3,687
TOTAL	396	54,651	22,116

Group Ventures not included

TABLE 9
FOREST MANAGEMENT ACTIVITIES ON PRIVATE LAND (INDIVIDUALS), 1988-89
(FOREST RESOURCE DEVELOPMENT AGREEMENT)

	Individuals		Large Landowners		Pulp and Paper Co.		Total	
Category	Unit	Assistance ($)	Unit	Assistance ($)	Unit	Assistance ($)	Unit	Assistance ($)
Management Plans	396	497,189		3,710	N/A	N/A	396	500,899
Access Roads (built and under construction)	191 miles (307 km)	762,424	N/A	N/A	N/A	N/A	191 miles (307 km)	762,424
Bridges (including box culverts)	420 feet (128 m)	62,375	N/A	N/A	N/A	N/A	420 Feet (128 m)	62,375
Boundaries	330 miles (531 km)	203,529	N/A	N/A	N/A	N/A	330 miles (531 km)	203,529
Fire Ponds	91	27,250	N/A	N/A	N/A	N/A	91	27,250
Silviculture	29,381 ac (11,890 ha)	4,479,167	7,789 ac (3,152 ha)	1,152,308	29,848 ac (12,079 ha)	885,160	67,017ac (27,121 ha)	6,516,635
TOTAL		6,031,934		1,156,018		885,160		8,073,112

Group Ventures not included.

TABLE 10
GROUP FOREST MANAGEMENT ON PRIVATE LANDS, 1988-89

Group Venture	Operating Claim	Share-holders	Active Mgmt. Plans	Area Under Mgmt. Acres	Area Under Mgmt. Ha	Road Construction Miles	Road Construction Km	Ponds	Boundaries Miles	Boundaries Km	Silviculture Acres	Silviculture Ha	Forest Improvement Claimed m^3(stacked)	Volume of Wood Sold Cords	Mgmt. Fee Contribution to Operating
Pictou	100,130	153	177	18,456	7,469	8	13	11	6	10	1,418	574	293,777	22,757	6,279	11,614
North Nova	88,900	132	126	29,843	12,077	16	25	—	9	14	1,381	559	282,038	19,265	5,315	13,190
Baddeck	98,246	195	174	23,959	9,696	43	69	—	10	16	1,302	527	321,094	21,722	5,993	14,215
La Foret	99,157	132	157	8,271	3,347	1	1	—	28	45	185	75	88,613	11,262	3,107	7,184
North Mountain	87,224	84	123	12,355	5,000	11	17	3	19	31	670	271	184,429	17,000	4,690	10,434
Sissiboo	97,100	121	167	17,616	7,129	11	17	1	3	5	519	210	245,000	22,738	6,273	15,528
Conform	79,661	139	167	29,065	11,762	24	39	2	16	25	489	198	278,000	41,162	11,356	19,802
Athol	110,210	105	112	23,487	9,505	24	39	—	10	16	1,910	773	432,700	41,327	11,402	30,406
Denysdale	103,873	65	70	12,108	4,900	17	27	—	14	22	1,317	533	298,226	11,600	3,200	5,476
Route 223	100,665	108	80	10,329	4,180	9	15	3	4	6	1,507	610	365,313	14,524	4,007	7,833
Coastal	104,405	82	74	10,626	4,300	10	16	2	7	12	279	113	128,548	21,500	5,932	10,561
Lunenburg	92,653	100	118	11,861	4,800	23	37	5	7	12	630	255	212,209	12,493	3,447	10,202
East Guysborough	84,914	53	68	9,032	3,655	9	15	12	22	36	549	222	187,600	29,338	8,094	19,065
Forchu	108,023	80	85	9,941	4,023	16	26	—	7	12	791	320	191,724	18,000	4,966	8,421
North Colchester	83,157	103	110	11,923	4,825	18	29	6	12	20	1,154	467	260,175	20,218	5,578	12,813
North Inverness	160,858	170	161	19,415	7,857	20	33	—	14	22	1,621	656	488,508	25,028	6,905	15,988
Celtic Isle	143,013	52	60	8,105	3,280	11	17	3	2	4	660	267	225,397	5,384	1,485	3,282
Antigonish	106,646	76	49	7,786	3,151	10	16	9	32	52	413	167	185,371	3,624	1,000	4,841
TOTAL	1,848,835	1,950	2,078	274,178	110,956	281	451	57	222	360	16,795	6,797	4,668,722	358,942	99,029	220,855

TABLE 11
CLASSIFICATION OF FIRES BY MONTH OF OCCURRENCE, 1988

Month	No. of Fires	Acres	Ha	Percentage of Total Fires	Percentage of Total Area
January	0	0	0	0	0
February	5	20.7	8.38	1.52	2.51
March	23	276.0	111.68	7.01	33.42
April	83	231.9	93.83	25.30	28.07
May	111	224.4	90.80	33.84	27.17
June	39	26.7	10.80	11.89	3.23
July	20	5.1	2.05	6.10	0.61
August	19	6.1	2.48	5.79	0.74
September	13	13.8	5.16	3.96	1.54
October	14	21.1	8.54	4.27	2.56
November	1	1.0	.50	0.30	0.15
December	0	0	0	0.00	0.00
TOTAL	328	826.8	334.22	100.00	100.00

TABLE 12
HUNTING AND NON-HUNTING ACCIDENTS AND RELATED STATISTICS

County	Injury Hunting Accident	Non-Hunting Accident	Total by Fatal	County
Annapolis	—	—	—	—
Antigonish	—	—	—	—
Cape Breton	1	—	—	1
Cumberland	—	—	—	—
Colchester	—	—	—	—
Digby	—	—	—	—
Guysborough	1	—	—	1
Halifax	—	—	—	—
Hants	—	—	—	—
Inverness	1	—	—	1
Kings	1	—	—	1
Lunenburg	—	—	—	—
Pictou	1	—	—	1
Queens	1	—	—	1
Richmond	—	—	—	—
Shelburne	—	—	—	—
Victoria	—	—	—	—
Yarmouth	—	—	—	—
TOTAL	6	—	—	6

Game Being Hunted		Type of Weapon Involved	
Deer	3	Shotgun	2
Rabbits	2	Rifle	3
Birds	1	22 Cal.	1

Causes of Accidents		Charges Laid as Result of Accidents	
Shooter stumbled and fell	1		
Victim out of sight of shooter	2	Wildlife Act	1
Unintentional discharge	2	Criminal Code	1
Trigger caught on object	1	Number liquor involved	—

Hunter Safety Courses

First time firearm hunters	5,182
Other firearm hunters	1,225
Bowhunters	1,017
TOTAL	7,424
Failures:	
Firearm	265
Bowhunter	—
TOTAL	265

Course Graduates Involved in Accidents

Firearm course	4
Bowhunter course	—
TOTAL	4

Number of Hunters and Fishermen, 1987*

Big game	86,140	Est. rabbit hunters	23,705
Small game	27,894	Bear Trapping	1,162
Moose	200	Furbearers	3,888
Fishing	74,357	Senior citizen, fishing	5,900
Senior citizen, big and small game	10,800	TOTAL	234,046

Prosecutions, 1987*

Total prosecutions	662
Jacking, uncased gun and shining light prosecutions	121
Warnings	977

Game Taken, 1987*

Deer	50,216	Grouse	78,737
Bear	747	Pheasant	9,712
Moose	164	Hungarian Partridge	—
Woodcock	4,099	Rabbits	263,101
Snipe	675	Furbearers	61,068
Black ducks	43,600	Trout	1,238,127
Sea ducks	15,076	Salmon	8,330
Other ducks	19,243	Geese	11,432

*Licenses, Prosecutions & Game Taken are for previous year as present year's statistics are not available.

GAME LICENSE FEES, 1988

Deer: Resident $17.00, Non-resident $80.00
Senior citizen — free.
Second permit same as license.
Bow season additional fee — Resident $5.00, Non-resident $10.00

Bear: Snaring (residents only) — License $17.00
Hunting license fees — Resident $17.00, Non-resident $80.00

Rabbits: No license required for residents.
Small game license for non-resident $40.00

Moose: Limit 200 licenses — fee $35.00

Pheasant and Grouse: Resident $12.00, Non-resident $40.00
Resident senior citizen — Free.

Furbearers: Mink, muskrat, otter, beaver, fox, bobcat, weasel, raccoon.
License fee $10.00

Fish and Migratory Birds
Regulations and bag limits controlled by federal government.
Provincial salmon license — Resident $15.00, Non-resident $35.00.
General Fishing License — Resident $8.00, Non-resident $30.00.
Provincial small game license also required.

TABLE 13
PROVINCIAL CROWN LAND FOREST PRODUCTION
STUMPAGE AGREEMENTS WITH LUMBER COMPANIES, 1988

Company	Annual Allowable Cut Sawn Products bd.ft. (m^3)	Other Products cords (m^3)s	Softwood Sawlogs bd.ft. (m^3)	Hardwood Sawlogs bd.ft. (m^3)	Softwood Pulpwood cords (m^3)s	Hardwood Pulpwood cords (m^3)s	Hardwood Fuelwood cords (m^3)s	Studwood cords (m^3)s
Barrett Lumber Sackville, N.S.								
Brookfield Lumber Co. Ltd. Brookfield, N.S.	500,000 (2 825)							
Caledonia Woodworkers Ltd. Caledonia, N.S.	800,000 (4 520)		791,622 (4 473)	494 (3) (oak)2,256 (13)	10 (37)		18 (66)	
C.I.P. Inc. (formerly Canexel Inc.) Chester, N.S.		25,000 (90 614)	184,295 (1 041)	14,592 (82)	1,464 (5 306)	7,801 (28 275) (palletwood) 95 (343)		125 (455) (hwd.) 254 (919) (oak)187 (676)
Elmsdale Lumber Limited Elmsdale, N.S.	1,200,000 (6 780)		1,474,607 (8 332)				20 (72)	
E.M. Comeau & Sons (1977) Ltd. Dartmouth, N.S.	289,500 (1 636)	1,839 (6 666)	97,379 (550) (lathwood)	9,199 (52) 21,072 (119)	273 (989)		273 (989)	

F. W. Taylor Lumber Ltd. Chaswood, N.S.	1,000,000 (5 650)	669,165 (3 781)	1,000 (6)	1,330 (4 821)		391 (1 417)	
G. Royce Hefler Forest Products Lower Sackville, N.S.	1,000,000 (5 650)	551,243 (3 115)		336 (1 217)	58 (210)		
Harry Freeman & Sons Dartmouth, N.S.	1,000,000 (5 650)	616,923 (3 486)	229 (1)	437 (1 585)	974 (3 529)	100 (362)	
Hoeg Bros. Lumber Ltd. Cumberland Co., N.S.	450,000 (2 542)	496,548 (2 805)		947 (3 434)		185 (671)	43 (156)
Kingston Lumber & Building Supplies Ltd. Kingston, N.S.	300,000 (1 695)	431,069 (2 436)		67 (242)	72 (261)		
Ledwidge Lumber Co. Enfield, N.S.	1,000,000 (5 650)	221,627 (1 252)		293 (1 061)		69 (251)	539 (1 952)
Lewis Lumber Co. Ltd. Weymouth, N.S.	400,000 (2 260)	281,186 (1 589)	(oak)21,849 (123)	220 (797)			
Long Lake Lumber Ltd. Upper Ohio Shelburne Co., N.S.	700,000 (3 995)						
Mactara Ltd. Upper Musquodoboit, N.S.	600,000 (3 390)						
Murray Reeves Forestry Ltd. New Ross, N.S.	300,000 (1 695)						
Sproule Lumber Ltd. Truro, N.S.	5,750,000 (32 488)	3,007,504 (16 992)	5,295 (30)	9,149 (33 160)	4,014 (14 550)	841 (3 049)	

s = stacked.

TABLE 14
OFFENCES AND CONVICTIONS, 1988

A — Offences known or reported B — Number of persons charged C — Warnings Issued

Subdivision		Crown Lands Act	Forests Act	Wildlife Act	Parks Act	Beaches P & P Act	Off-Hwys Vehicles Act	MBC Act	Totals
Cape Breton North	A	9	14	823	4	2	26	4	882
	B	0	0	79	0	0	0	3	82
	C	3	11	371	0	0	25	0	410
Cape Breton South	A	5	25	982	21	8	1	52	1094
	B	0	3	57	7	0	0	1	68
	C	0	1	60	11	0	0	1	73
Eastern	A	10	15	357	50	17	1	8	458
	B	0	2	40	26	0	0	1	69
	C	2	9	42	9	0	1	11	74
North Central	A	2	3	330	8	1	1	3	348
	B	0	0	36	0	0	1	0	37
	C	1	1	36	0	1	0	0	39
South Central	A	1	49	652	58	9	7	60	836
	B	0	2	91	3	0	0	3	99
	C	0	21	86	50	0	1	3	161
Valley	A	2	22	495	1	1	3	2	526
	B	0	5	36	0	0	3	2	46
	C	0	7	83	0	1	0	44	135
South Shore	A	5	18	465	26	8	12	17	551
	B	0	15	49	15	0	6	1	86
	C	4	7	61	3	2	5	4	86
Western	A	35	36	318	21	10	38	44	502
	B	0	0	36	0	0	0	19	55
	C	0	4	39	8	4	8	8	71
Total	A	69	182	4422	189	56	89	190	5197
	B	0	27	424	51	0	10	30	542
	C	10	61	778	81	8	40	71	1049

Jacking	57
Flashing	12
Uncased Rifle	34